

68. (Twice Amended) An apparatus for detecting the endpoint of a planarizing process comprising a microelectronic substrate having a top surface formed of a first substance, and a second substance, the second substance being implanted at a concentration of approximately 0.001% to approximately 0.1% of the first substance, and at a distance d as a layer with a thickness t beneath the top surface of the microelectronic substrate, the microelectronic substrate being configured with;

a planarizing device having a first portion and a second portion movable relative to the first portion to remove material from the microelectronic substrate positioned therebetween, the material including atoms of the first and second substances;

transport means to move the material from the planarizing device; and

a mass spectrometer coupled to the transport means to receive the material and detect the atomic mass of the second substance.

REMARKS

Claims 68-72 and 78-93 are pending in the application. In the Office Action dated October 17, 2002, the Examiner has withdrawn from consideration renumbered claims 90-93 as drawn to a semiconductor substrate. Applicant hereby cancels claims 90-93 without traverse to the filing of any divisional, continuation or continuation-in-part application. The Examiner rejected claims 68-72 and renumbered claims 78-89 under 35 U.S.C. § 103(a) as being unpatentable over the references as applied in any of paragraphs 17 or 19 of the previous Office Action dated April 16, 2002. Applicant disagrees with this ground of rejection and wishes to clarify various distinctions of Applicant's invention over the cited art. Reconsideration is therefore requested in light of the present amendment and following remarks.

The disclosed embodiments of the invention will now be discussed in comparison to the prior art subject matter. Of course, the discussion of the disclosed embodiments and the discussion of the differences between the disclosed embodiments and the prior art subject matter, do not define the scope or interpretation of any of the claims. Instead, such discussed differences merely help the Examiner appreciate important claims distinctions discussed thereafter.

Applicant discloses a microelectronic substrate with implanted materials that are used to detect an endpoint in the chemical mechanical planarization of semiconductor substrates.